

Exhibit 1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT:

Sung

SERIAL NO.:

10/627,441

FILING DATE:

7/25/2003

FOR:

MOLTEN BRAZE COATED

SUPERABRASIVE

PARTICLES AND

ASSOCIATED METHODS

ART UNIT:

1755

EXAMINER:

Marcheschi, Michael

DOCKET NO.:

20303.CIP

CERTIFICATE OF DEPOSIT UNDER 37 C.F.R. § 1.8

I hereby certify under 37 CFR § 1.8 that this correspondence is being facsimile transmitted to the USPTO or being deposited with the United States Postal Service with sufficient postage as first class postage in an envelope addressed to Mail Stop Non-Fee Amendment/Response Commissioner of Patents P.O. Box 1450, Alexandria, VA 22313-1450 on the date indicated below.

Date of Deposit

DECLARATION OF CHIEN-MIN SUNG UNDER 37 C.F.R. § 1.132

Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

- I. I, Chien-Min Sung, declare as follows:
- 1. I am the first named inventor of U.S. Patent No 5,030,276 (hereinafter "the '276 patent").
 - My academic background is as follows:

Ph.D., Earth Sciences, M.I.T, Cambridge, MA, USA

B.S., Geology, National Taiwan University, Taipei, Taiwan

Diploma, Mining & Metallurgy, Taipei Institute of Tech., Taipei, Taiwan

BEST AVAILABLE COPY

- 3. I currently lecture as an Adjunct Professor at the National Taiwan University and the Taipei University of Technology. I was a manager of the diamond engineering section of General Electric from 1977 to 1984. I have been the Director of the Norton Company in Massachusetts, Intertech Corp. in Maine, and Inorganic Materials in Taiwan, as well as the President of United Machinery in Massachusetts. I served for 8 years as the Vice President to Kinik Company in Taiwan. I am currently the President of the Diamond Technology Center at Kinik Company, and the President of Advanced Diamond Solutions, also in Taiwan.
- The diamond materials in the present application (10/627,441) and the '276 patent 4. are very different, and such difference would be readily recognized by one of ordinary skill in the The '276 patent teaches products having one or more temperature stable polycrystalline TSPCD elements are generally made by diamond (TSPCD) elements bonded to a support. sintering micron diamond particles under ultrahigh pressure (>5GPa) with either molten cobalt or silicon as the sintering aid. The TSPCD element is thus a mass of diamond particles held together by diamond to diamond bonds. As cobalt is a catalyst for diamond synthesis at ultrahigh pressure, when diamond is stable it back converts diamond at low pressure to form graphitic carbon. Because of this, the cobalt is leached away by dipping the elements in acid. TSPCD with the cobalt leached away contains microscopic pores that are remnants of the gaps between the now sintered diamond particles. The '276 patent requires the coating of TSPCD elements with a carbide former, followed by infiltration to form a large mosaic surface comprised of multiple TSPCD elements. A typical TSPCD element is, therefore, larger than 3mm, and the resulting mosaic is much larger. In contrast, single superabrasive particles for molten braze coatings are usually smaller than 1 mm. Additionally, a TSPCD segment according to the '276 patent is intended to be joined with other TSPCD blocks to create a larger mosaic of TSPCD elements.
 - 5. The claims of the present application contain limitations to coating individual superabrasive particle with a molten braze alloy. These superabrasive particles are then bonded together with the braze alloy. In contrast to the '276 patent, the superabrasive particles of the

ı.

present application are thus bonded together with the braze alloy, not with diamond to diamond bonds. Additionally, the molten braze is intended to bond the coated superabrasive particles to a metal matrix. As such, one of ordinary skill in the art would recognize that the TSPCD elements of the '276 patent are multi-particle elements held together by diamond to diamond bonds, which are very different from single particles held together by a solidified braze alloy.

5. I declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful, false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful, false statement may jeopardize the validity of the application or any patent issuing thereon.

DATED this Z 4 day of April, 2006.

Dr. Chien-Min Sung

"一种种交通证据集制的建设性性"运用,但是一个人,但是这是"数据管辖的"的"对于"设备"的基础